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L6: Entry 2 of 7

File: EPAB

Aug 2, 1984

PUB-NO: WO008403019A1

DOCUMENT-IDENTIFIER: WO 8403019 A1

TITLE: MERCHANDISE VERIFICATION AND INFORMATION SYSTEM

PUBN-DATE: August 2, 1984

INVENTOR-INFORMATION:

NAME

COUNTRY

KATZ, RONALD ALAN

US

GOLDMAN, ROBERT NORMAN

US

ASSIGNEE-INFORMATION:

NAME

COUNTRY

LIGHT SIGNATURES INC

US

APPL-NO: US08300566

APPL-DATE: April 15, 1983

PRIORITY-DATA: US45869983A (January 17, 1983)

INT-CL (IPC): H04Q 9/00; G06K 5/00

EUR-CL (EPC): G07D007/00; G07D007/00, G06K017/00 , G06F017/60

ABSTRACT:

CHG DATE=20000815 STATUS=O>A system for individually tracing units of merchandise with authentication devices or tags (10) as such tags (with merchandise) move through channels of commerce. The total system incorporates a non-counterfeitable authenticator or verification tag (10) which bears a machine-readable identification number (26, 36, 38) and which in one form includes perforated, tear-off sections (14, 18) bearing the identification number and in another form (Fig. 5) is adhesively integrated with a product package. Operating with the tag, the physical system includes a central processor (40) with a memory means that is addressable by using the tag identification number. A tag reader (106) senses the machine-readable identification number (may also verify the tag) and addresses the memory means for registering information to specifically identify the tag and indicate batch information (80). As the tag (and unit of merchandise) move to commerce, the memory information is supplemented to provide a history (Fig. 4) of such movement. In subsequent operations, the memory can then be tested for meaningful information on the merchandise. As one key to using the method to procure significant data, the system incorporates apparatus (64) for testing the content of the memory to manifest the identification of specific tags that are related as a subset of merchandise of interest.

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HOUSTON'S LEADING INFORMATION SOURCE

HoustonChronicle.com**Zero-knowledge proof gives no information, assures truth***Houston Chronicle (Pre-1997 Fulltext); Houston, Tex.; Feb 22, 1987; JAMES GLEICK;*

Sub Title: [2 STAR Edition]

Start Page: 9

Dateline: NEW YORK

Abstract:

Blending pure logic with computer technology, the researchers are developing an area of mathematics called zero-knowledge proof. Where a conventional proof conveys information, a zero-knowledge proof is meant to convey only the assurance that the information is in hand. The goal is to convince a second party without providing any of the knowledge that would allow him, or an eavesdropper, to convince a third party.

[Adi Shamir] and two co-workers, Amos Fiat and Uriel Feige, have designed a way to use zero-knowledge proof cheaply and quickly in electronic chips that could be implanted, for example, in credit cards. Credit cards using chips, "smart cards," are already in development, but a smart card using zero-knowledge proof could identify the cardholder to a merchant without giving the merchant the knowledge - the card number - that would let him make illicit purchases or forge a new card.

The essence of zero-knowledge proof lies in an interactive exchange of information between the "prover" and the "verifier." That is a break with the traditional practice of simply writing a proof down, once and for all - or simply revealing one's password.

Full Text:

Copyright Houston Chronicle Publishing Company Division, The Hearst Corporation (the "Houston Chronicle") Feb 22, 1987

NEW YORK - Mathematicians and cryptologists have discovered a way for people to prove that they possess secret information - from their credit card numbers to military access codes - without giving any of the information.

This keenly paradoxical discovery has upset the traditional understanding of mathematical proof. Beyond that, however, it may also hold the power to transform the many aspects of modern life where processes of identification are subject to abuse, from everyday financial transactions to encounters between enemy aircraft.

Blending pure logic with computer technology, the researchers are developing an area of mathematics called zero-knowledge proof. Where a conventional proof conveys information, a zero-knowledge proof is meant to convey only the assurance that the information is in hand. The goal is to convince a second party without providing

any of the knowledge that would allow him, or an eavesdropper, to convince a third party.

"You want to be able to prove some fact and not disclose why the fact is true," said Sylvio Micali of the Massachusetts Institute of Technology, one of the originators of the idea. "You want to convince without giving more knowledge than is strictly necessary." Ideally, that is no knowledge at all.

Although **zero-knowledge** proof began as an abstraction, computer scientists quickly realized its applicability to many everyday uses of secrecy. The issue arises whenever someone tears up credit-card carbons, looks over his shoulder while signing onto a computer or worries about the photocopying of a passport left with a hotel concierge.

"Everybody has secret information that he needs to show to somebody to identify himself," said Adi Shamir of Israel's Weizmann Institute of Science. With **zero-knowledge** proofs, "instead of giving away the secret, he proves he knows the secret," he said.

Shamir and two co-workers, Amos Fiat and Uriel Feige, have designed a way to use **zero-knowledge** proof cheaply and quickly in electronic chips that could be implanted, for example, in credit cards. Credit cards using chips, "smart cards," are already in development, but a smart card using **zero-knowledge** proof could identify the cardholder to a merchant without giving the merchant the knowledge - the card number - that would let him make illicit purchases or forge a new card.

"I can go to a Mafia-owned store a million successive times and they still will not be able to misrepresent themselves as me," Shamir said.

Because this invention also affects military uses of identification procedures, the United States recently imposed a secrecy order on it; the order was quickly rescinded amid an outcry from American mathematicians.

The fundamental mathematical ideas of **zero-knowledge** proof that underlie the invention are firmly in the public domain, and many researchers are pursuing other applications.

The essence of **zero-knowledge** proof lies in an interactive exchange of information between the "prover" and the "verifier." That is a break with the traditional practice of simply writing a proof down, once and for all - or simply revealing one's password.

"What I find most exciting is that the whole notion of what constitutes a mathematical proof is broadening," said Manuel Blum of the University of California at Berkeley, who has played a central role in making such proofs workable. "This interactive exchange has never existed before. In Euclid the proofs are written down - from Euclid to us - just one way."

The other new element is a role for chance. In effect, the verifier asks a series of questions, choosing the questions by some electronic equivalent of flipping a coin.

Suppose, for example, the prover has a bafflingly complex maze the size of New York City. She points to two locations - Times Square and Shea Stadium - and asserts that she knows paths through the maze connecting them. How can she convince a verifier without actually showing him how to get from one point to the other?

She picks a third point on a path - say, the Brooklyn Promenade - and offers to reveal either the path from Times Square to the promenade or the path from the promenade to the stadium. The verifier flips a coin and chooses one half-path or the other. If she is lying, he already has a 50 percent chance of catching her.

Now she picks yet another point - Rikers Island - and they repeat the process of interrogation. The verifier checks either the path from Times Square to Rikers or from Rikers to the stadium. Again, if the prover is lying, she has a 50 percent chance of being caught.

"Eventually you are convinced, because of my willingness to show you either of two halves," Shamir said. "You chose which half you wanted to see."

The verifier can repeat the process as long as he likes. After 300 inquiries, the chance that she is lying has fallen to one part in 2300, more than the number of atoms in the universe.

This example is not quite a **zero-knowledge** proof, however. Even though the verifier never actually sees a full path, the many fragments of paths can eventually enable him to piece together an understanding of the maze.

A more precise example involves a collection of lines joined at nodes, which mathematicians call a graph. A well-known problem is to ask whether it is possible to paint the nodes of a certain graph, using just three different colors, so that no line has the same color at both ends.

To construct a large graph that can be colored this way is easy. But the reverse problem, to find a way of coloring a given graph, has been shown to be very hard - a member of a class of problems that cannot be solved in a reasonable amount of time. The difficulty of the problem rises rapidly as the graph becomes bigger.

Micali and other experts in the field, who include Shafi Goldwasser, Charles Rackoff, Oded Goldreich and Avi Wigderson, have shown that graph colorings - and all other problems in the same hard class - can be proved in ways that convey **zero knowledge** of the proof.

Similar problems of pure mathematics are used electronically in the practical applications. Instead of a credit-card number, a user may have a computer chip containing, in effect, a unique, complicated graph and its coloring. A verifying computer knows the graph associated with each user, but does not know how to color it.

For practical applications, the mathematics of graph coloring are too slow. But using techniques of number theory, researchers have come up with **zero-knowledge** proofs that adapt well to electronic circuitry.

Most important to many applications is that the technology of **zero-knowledge** proof so effectively separates the ability to generate a proof from the ability to verify it.

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Corrections

Network World; Framingham; Sep 7, 1998; Anonymous;

Volume: 15
Issue: 36
Start Page: 6
ISSN: 08877661

Full Text:

Copyright Network World Inc. Sep 7, 1998

A recent article on **ZeroKnowledge** Systems (Aug. 10, page 1) incorrectly reported the price of the company's new IP anonymity software. The company will make available a freeware version as well as a Pro edition that will cost \$50, plus a \$5 annual fee per pseudonym. The article also incorrectly referred to **ZeroKnowledge** Systems' software as using a technology called onion routing, which was developed by the Naval Research Laboratory. For more information, visit www.zks.net.

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Syntellect Installs Technology for Mondex Electronic Cash Program in Hong Kong

PR Newswire; New York; Dec 15, 1997;

Start Page: 1**Dateline:** Georgia**Companies:** Syntellect Inc.
Mondex International**Full Text:**

Copyright PR Newswire - NY Dec 15, 1997

Industry: COMPUTER/ELECTRONICS

ATLANTA, Dec. 15 /PRNewswire/ -- In Asia, HSBC (The Hongkong and Shanghai Banking Corporation Ltd popularly known as HongkongBank) has installed Syntellect's (Nasdaq: SYNL) Mondex smartcard technology in Hong Kong as part of the world's biggest full-scale launch of the Mondex electronic cash system.

HongkongBank installed 52 ports of VocalPoint(R) IVR (interactive voice response) technology from Syntellect which, combined with Syntellect's Mondex device support software developed with the bank, allows Mondex smartcard transactions to be conducted automatically over a telephone line.

With the new Syntellect system, Mondex cardholders can use telephones or Point of Sale (POS) terminals to transfer money from their bank accounts to their Mondex cards and from their cards to their accounts remotely at any time. Retailers can automatically upload Mondex funds from POS transaction terminals directly into their bank accounts at the end of the day, or when a predetermined amount of Mondex money has been received from shoppers.

"We have used Syntellect IVR equipment successfully as a standard for many years across several hundred telephone lines, and we found that Syntellect was as responsive as it was enthusiastic about developing the new Mondex smartcard device support," states Tim Cureton, HSBC Head of Group Telecommunications.

A full-scale launch of the Mondex cash system in Hong Kong occurred on Nov. 10th following an earlier pilot in 1996. More than 5,000 local merchants have agreed to accept Mondex cards for payments, and all HongkongBank and Hang Seng Bank (another HSBC Group subsidiary) customers are eligible for Mondex cards.

To date, the Hong Kong program has proved very successful with more than 50,000 cards issued or under application.

The concept of electronic cash is rapidly gaining acceptance and Mondex implementations continue to take place around the world. Mondex is currently being used in 21 locations across the globe from Australia to Canada, Hong Kong, New Zealand, Philippines, UK and USA. By the end of 1997, Mondex International will have produced

more than 1 million cash-reloadable Mondex cards; this figure is expected to rise to 5 million reloadable cards by the end of 1998.

This announcement is the latest step in Syntellect's commitment to helping banks implement the Mondex electronic cash system. Syntellect is now certified as an official Mondex supplier.

Syntellect has also signed a joint marketing and development agreement with the Amdahl SmartCard Group, a division of Amdahl Corporation, the computer software, services and systems company. While Syntellect's IVR software allows Mondex transactions to take place automatically over a telephone line, Amdahl provides a hardware and software host system that gives financial organizations value transfer, value management, audit, settlement and reporting capabilities for Mondex. Through this partnership, Syntellect and Amdahl have already implemented their Mondex solutions at locations in the United States, Australia and New Zealand.

Syntellect is also pursuing partnerships with other suppliers which provide Mondex card interface devices or host systems.

Mondex International Ltd

Mondex International grants licenses to franchisees to allow them to exploit the Mondex electronic cash technology in a given territory. Since its incorporation in 1996, Mondex has issued 29 franchises across 5 continents. Mondex is being developed by franchisees in over 50 countries, representing a potential market place of more than 3 billion people.

Mondex is the most 'cash-like' of the electronic cash smartcards which are beginning to be introduced around the world as a more efficient alternative to physical cash; for use in everyday shopping and as a future payment mechanism in a wide variety of areas such as the Internet and 'pay-per-view' TV.

Mondex is the only electronic cash system in the world to operate with a single global technology allowing for cross-country payments. It allows up to five different currencies to be carried on the card at any one time in separate electronic pockets.

MasterCard International acquired 51% of the company in February 1997 and has decided to adopt Mondex International's technology as its future choice of strategic chip platform.

The following companies are also shareholders (directly or indirectly) in Mondex International: National Westminster Bank, Ulster Bank, Scotiabank, Credit Union Central of Canada, The National Bank of Canada, Bank of Montreal, Canada Trust, Le Mouvement des caisses Desjardins, Toronto-Dominion Bank, Royal Bank of Canada, Canadian Imperial Bank of Commerce, The Hongkong and Shanghai Banking Corporation, Midland Bank, Wells Fargo, AT&T, Chase Manhattan, First Chicago NBD, Australia and New Zealand Banking Group, Commonwealth Bank of Australia, National Australia Bank, Westpac Banking Corporation (Australia), ANZ Banking Group (New Zealand), Bank of New Zealand, Countrywide Banking Corporation, The National Bank of New Zealand, ASB Bank and Westpac Banking Corporation (New Zealand).

Mondex H8/3109 smartcard chip

The new H8/3109 customized smartcard chip being used features an on-board crypto co-processor, and offers 8Kbytes of EEPROM and 14Kbytes of ROM allowing for high-speed numerical calculations and the longer key lengths which are required for public key algorithms, such as RSA, DSA, **Zero Knowledge** and others.


Further information regarding Mondex is available on their web site at: www.mondex.com.

HSBC Group (HSBC Holdings plc)

HSBC Holdings plc, the holding company of the HSBC Group, whose major subsidiaries include The Hongkong and Shanghai Banking Corporation Ltd., Midland Bank in the UK, Marine Midland Bank in USA, HSBC Bamerindus in Brazil and others, is among the world's largest banking and financial services organizations. The company has more than 5,000 offices in 78 countries and assets in excess of 270 billion Pounds Sterling.

Syntellect

Syntellect Inc. is a global leader in interactive communications. More than 3,000 organizations in 55 countries rely

on Syntellect's advanced systems and services to communicate with their customers. Founded in 1984, Syntellect offers a comprehensive range of products and services including powerful interactive voice response and predictive dialing technology, as well as outsourced solutions through Syntellect Interactive Services. Syntellect is headquartered in Atlanta with regional operations in Phoenix and the United Kingdom. For more information, visit the Syntellect Web site at www.syntellect.com. SOURCE  Syntellect Inc.

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① Mondex adding high-security chip

Bank Systems & Technology, New York, Dec 1997; [Russell Redman](#);

Volume: 34
Issue: 12
Start Page: 17
ISSN: 10459472
Subject Terms: [Microprocessors](#)
[Product introduction](#)
[Data encryption](#)

Classification Codes: 9190: *US*
9000: *Short article*
8650: *Electrical, electronics, instrumentation industries*
9120: *Product specific treatment*

Geographic Names: US

Companies: [Mondex International](#)

Abstract:

As ① Mondex pilots worldwide progress toward broader consumer rollouts, ① Mondex International is introducing a high-security chip for its smart cards. The new chip - the H8/3109, developed by ① Hitachi - employs public-key encryption, providing longer key lengths for encryption codes than the private key encryption used in the previous chip cards.

Full Text:



Copyright Miller Freeman Inc. Dec 1997


① MONDEX INTERNATIONAL IS introducing a high-security chip for its smart cards as ① Mondex pilots worldwide progress toward broader consumer rollouts.



The new chip - the H8/3109, developed by ① Hitachi - employs public key encryption, providing longer key lengths for encryption codes than the private key encryption used in the previous chip cards, said Robin O'Kelly, a spokesman for London-based ① Mondex International.

The H8/3109 chip architecture is upward-compatible with next-generation ① Mondex cards, including cards using the MULTOS operating system, ① Mondex reported.

Chase Manhattan Bank, New York, is using cards with the H8/3109 chip for its ① Mondex pilot in Manhattan's Upper West Side, according to Ron Braco, senior vice president of electronic commerce at Chase. ① HSBC Holdings -- whose subsidiaries include Marine Midland Bank, Hongkong Bank, Midland Bank and ① Hang Seng Bank - also is slated to use the H8/3109 card as it expands its ① Mondex pilot to more consumers, according to Geoff Bruce, head of group cards at the Hong Kong-based bank company.

Globally, the consumer rollouts are expected to add more than 500,000 issued cards before the end of the year, with more than 1 million reloadable  Mondex cards produced by year-end, according to  Mondex. By the close of next year, the number of cards produced is projected to reach 5 million worldwide. Each card can hold up to five currencies in separate "electronic pockets," allowing for easier use internationally.

Under development for two years, the H8/3109 chip has an on-board crypto co-processor offering 8 kilobytes of EEPROM and 14 kilobytes of ROM, enabling the high-speed numerical calculations and longer key lengths that are needed for public key algorithms, such as RSA, DSA and **Zero Knowledge**,  Mondex officials reported.

The  Hitachi chip underwent a market test and analysis program that included fault analysis interrogation by leading chip and security labs,  Mondex officials said.

- Russell Redman

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2034437
entral Trust/P&G Card Links Shopper Purchases
ark Marketing Magazine September, 1988 p. 51
SSN: 0888-3194

Central Trust will test market a card that combines a Visa card, debit card, check authorization card, and promotional vehicle. The Vision Card, to be tested in an undisclosed area, is embedded with a microchip and provides 2-way communication ability. The card will be marketed by Advanced Promotion Technology, and will be issued to all grocery customers requesting one, carrying no financial services. Those who qualify, will receive the Vision card uniting the financial services. The use of a microchip keeps track of UPC codes and can signal the retailer to offer instant customized promotions or coupons through a card reader at the checkout.

OMPANY:
*Central Trust

RODUCT: *Magnetic Cards (3679120)
VENT: *Product Design & Development (33)
OUNTRY: *United States (1USA)

CONFERENCES

Trying to get smart

'A solution in search of an application' is how smart cards tend to be described these days. Everyone has lots of futuristic applications for them and many people regard them as 'a good thing', but real uses are still few and far between. Smart Card 89* aimed at presenting a thorough review of what is happening on the chip card front.

You can use it as cash, as a record of your medical history, to provide details of your weekly food shopping list, to note sports training programmes, library books due...in fact just about anything. What is it? It is, of course, a smart card and while people are fond of reciting lists of the many possible applications they could have, few can actually point to real life experience beyond the usual assortment of expensive trials and Government sponsored pilots.

Smart Card 89 provided chip — or more correctly integrated circuit (IC) — card enthusiasts with the ideal opportunity to catch up on the latest developments in both technology and applications.

On the technological front, smart cards still appear to be a major problem with producers quibbling over whether the chip should be on the front or back of the card, which corner it should appear in, and indeed whether the card should be 'contactless', like the GEC card in use at Loughborough, so that it does not actually have to touch the reading device in order for its memory to be tapped.

Standard problems

Until there is some agreement over these vital issues, then it is not surprising that card issuers prefer to stick with the good old magnetic stripe — which also happens to be a great deal cheaper as well.

On the retail front smart cards still have fairly limited applications. Two quasi-retail trials are now underway in the UK — the Midland Merit Card project at Loughborough University and the Barclaycard experiment at Dallington Country Club in Northampton (see RA Vol 9, No 1).

Scott Thompson, from the Midland,

*Smart Card 89 was held at the Novotel Hammersmith on March 7-9, 1989 and was organised by PLF Communications, 9 Cross Street Court, Cross Street, Peterborough PE1 1UF. Tel: 0733 558571.

responsible for the Loughborough trial, was at the conference to provide a progress report on this project. All, it seems, is going well and despite a promised reward from the bank none of the technological problems at Loughborough has yet managed to trick the Merit Card into transferring spurious amounts into student bank accounts or providing unlimited free beer in the campus bars.

1000 cards at Loughborough
Only 1000 cards have been distributed at Loughborough so far and although the trial was initially confined to first year students it is proving so successful that Midland plans to extend it to all its account holders on the campus.

The Merit card offers various functions. There is:

- MTill — which clears electronic cheque facilities authorised by ECU
- MCash — which allows students to

transfer money from their bank accounts onto a 'purse' within the card and then use this for paying small amounts at the university bars, shops and canteens taking part in the trial.

- MFile — which records the card's last 64 transactions. These can be viewed on terminals on the campus and a hard copy produced. This function also provides access to view data services from Prestel, Thomas Cook's travel information bank and

The Olivetti GPS smart card in action at an ATM — will it ever happen here?

also Thomas Cook's travel cheque ordering service. Charges for using these services are automatically deducted from MCash.

All these transactions are authorised within the card and there are no on-line EFTPOS links. Retailers linked to the bank are polled daily and those not linked use their own smart cards to 'read' transaction data from their in-store terminals and then 'pay' that into the bank.

'I am sure that before long we shall see the merit Card moving "off campus"', Scott Thompson told delegates, 'with more outlets accepting the card.'

Just how long that will actually be is, of course, a matter of conjecture. Midland regards the Loughborough project as research and development and is picking up the tab for all costs involved.

As a general circulation payment card, Thompson sees little likelihood of smart cards taking over from magnetic stripe in the short term. 'A national issue of "financial" smart cards is at least five years away', he said. 'Such a card could be a credit and debit card, an electronic purse and offer other "add-on services", not necessarily provided by the card issuer — such as a phone card and a season ticket for car parks or public transport.'

Thompson does, however, believe that smart cards will find a ready use



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within niche markets and closed environments within the next couple of years.

Such applications will become more widespread, he added, as costs come down. In 1963 a calculator cost £250, he told delegates. I know because I actually still have the receipt for the first one I bought. Today that £250 is the equivalent of £2,600 yet calculators now cost around £5 and go far more than the 1963 version ever did. It will be the same with smart cards.

One application that certainly looks like getting underway fairly soon is the use of smart cards to pay for watching Sky TV programmes by using a contactless card, like the GEC version, which just has to be laid on top of the television monitor to both authorise access to the satellite system and pay for viewing.

Another 'closed environment' that is ripe for smart cards is of course the retail store, and Henry Dreifus from Arthur Andersen & Co in Chicago reviewed some of the in-store applications for IC cards that are being developed at the store of the future project at Northwestern University.

This project is primarily concerned with food stores where margins in the USA are currently around 1-2% and there is considerable over-capacity of outlets with little to differentiate between them.

Among the issues he believed would exercise food store chiefs as we move towards the year 2000 were:

- the collection and consolidation of vast amounts of transaction data — typically of 10,000 customers a week buying an average of 35 items on each shopping trip;
- the need to relate individual purchasing patterns to product assortments and promotions;
- faster analyses of data;
- improved accuracy of data capture;
- data privacy; and
- the ease with which management could use the data.

'Up to 35% of the items shoppers buy in a food store are actually decided on while the customer is in the store,' explained Dreifus. 'customers are therefore affected by in-store promotions and offers.'

However, he added, shoppers currently suffer from an 'overload' of promotional material. 'If every money-off coupon that is issued in the US is redeemed it would actually blow the economy — it is reckoned that the

equivalent of five times the USA GNP is circulating out there in unredeemed money-off coupons!'

Smart cards, he argued, could be used as a far more effective promotional tool — and prove valuable for building retail loyalty — by allowing regular shoppers access to information and offers in-store that could be specifically tailored to their needs.

A regular shopper, for example, could be issued with a smart card that gave details of her weekly shopping basket or items she frequently purchased.

On entering the store she could use the card to access a touch screen terminal which would 'read' her likes and dislikes from the card and then present special offers geared to her needs. These coupons could be loaded onto the smart card and would be automatically redeemed at point of sale.

Similarly, the smart card could offer additional security at the checkout by including details of the customer's signature with his memory or even a photograph of the cardholder which could be verified by special headers.

Using smart cards like this allows retailers to make maximum use of their EPOS data, explained Henry Dreifus. As transaction details can be related to individual shoppers, customers can therefore be more precisely targeted and marketing data for management is more readily available.

This sort of 'micromarketing' strategy is becoming increasingly important in retailing — and not just in the USA — as stores try ever harder to identify and attract regular customers. Getting shoppers to actually identify themselves in order to get on to mailing lists is, as every retailer knows, not easy.

Offering an incentive like a smart card giving access to personalised shopping information could help identify frequent shoppers and make them more accessible to store marketing departments.

This sort of application — in the closed environment of a store — certainly makes a lot of marketing sense. As retailers in the UK food sector continue to trade in an increasingly overcrowded market where the 'big five' appear ever more alike, one wonders who will be first to follow the 'store of the future's' forecast of smart cards to come?

Financial Self-service

The third European conference and exhibition on financial self-service is due to take place on May 23-24, 1999 at the Edinburgh Sheraton Hotel.

Edinburgh, as one of the three sites for the inaugural scheme and Eufos UK will have a very strong presence at the show with a large stand in the exhibition and a presentation by Brian Allinson on the second day of the conference.

A regular feature of the show is the announcement by Battelle of the annual award for the most active ATM network in Europe. This year, two awards will be granted — one for the most active network with over 500 ATMs and the other for the most active network with less than 500 ATMs.

It is significant that the publishers of a number of very important new reports have chosen this event as their UK launch-pad. Brian McGinley of Citicorp Savings of Illinois and chairman of BAI National ATM Crime Task Force will present a report entitled *ATM Crime in America*.

The American Bankers Association will be releasing, for the first time in Europe, a report on branch design and merchandising and the third new report at the show comes from System Dynamics and is entitled *User Expectations of ATMs*.

The highly topical subject of 1992 will be given due consideration in the afternoon session on the first day — 'EFT Crossing Boundaries'. Richard Darwin of Advanced Transaction Systems, will look at how smart cards can be used to ease the transport of data flow throughout Europe. Peter Jones of DMR UK, will give some key guidelines on how to penetrate the European market. Rob Farbrother of Funds Transfer Sharing, will discuss 'The Open Arena'.

A very important new inclusion of the conference programme is a session entitled 'Taking Self-service to the Customer' in areas such as travel retail and insurance.

Other prominent speakers in the conferences include Roger Ward of Banklink International, and Eric Porci of Sala Sparbank who discuss a home bank for mass distribution.

Professor Jack will also be present to talk about the recently published Jack Report.

For more information contact: RMDP Tel: 0273 821455, or SETG Tel: 0292 313203.

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nstant coupons on video screens set for test run at Finast checkouts
lain Dealer (Cleveland, OH) November 18, 1988 p. B;15

Finast is testing a special point of sale system that distributes coupons to customers in-store. The firm is testing the system at 2 outlets in the Cleveland, OH, area. The system uses the bar codes on the product price scanners at the supermarket to determine what products are being purchased and then automatically discounts the price. In addition the system, called Vision System, puts out coupons. Sometimes the system will supply a purchaser with more coupons from the same manufacturer whose products were purchased or perhaps receive a premium from the manufacturer in the spot. The grocery store chain with the system may also benefit as in some cases the coupons can specifically generated for that store or that chain giving the customer an incentive to return. A synthesized voice will also make announcements on coupons and discounts available to the consumer. Backers of the Vision System include Procter & Gamble, Kraft, Del Monte, and Ralston Purina. The Vision System can also be used to promote store specials. Pres of the Ohio div of First National Supermarkets, J Shields, comments that the system will give the customers refunds and discounts while the customers purchases are being rung up by the cashier.

COMPANY:

*Finast

PRODUCT: *Supermarkets (5411100)
EVENT: *Services Data (36)
COUNTRY: *Ohio (1639)

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